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BORDER
POWER PLANT
WORKING GROUP

GRUPO DE TRABAJO DE
TERMOELECTRICAS
FRONTERIZAS

December 17, 2004

Lieutenant Ken Kusano
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Mr. Cy Oggins
California State Lands Commission
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**Subject: Border Power Plant Working Group (BPPWG) Comments on Draft EIS/EIR for Cabrillo Port Liquefied Natural Gas Deepwater Port**

Dear Lt. Kusano and Mr. Oggins:

Thank you for this opportunity to comment on the Draft EIS/EIR for the Cabrillo Port Liquefied Natural Gas Deepwater Port. The Border Power Plant Working Group (BPPWG) comments on the Draft EIS/EIR are enclosed. BPPWG comments are provided in the order the issues being commented upon are presented in the Draft EIS/EIR. Please contact me at (619) 295-2072 if you have any questions about the enclosed comments.

Sincerely,

Bill Powers, P.E.

Bill Powers, P.E.
Chair, Border Power Plant Working Group

cc: U.S. Senator Diane Feinstein
U.S. Senator Barbara Boxer
Congresswoman Nancy Pelosi
Congresswoman Lois Capps
Congressman Bob Filner
Governor Arnold Schwarzenneger
State Senator Christine Kehoe

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**Comment 1: Section 1.2.2.1 National Natural Gas Needs**

The U.S. Department of Energy (DOE) Energy Information Administration (EIA) natural gas demand growth projection assumes a steady 1.8 percent increase in natural gas demand growth during the 2002-2025 timeframe. The EIA also projects an increase in domestic natural gas production of approximately 20 percent over the same time period. The 1.8 percent demand growth assumes business-as-usual gas consumption patterns coupled with a much greater reliance on natural gas-fired power generation in the future. Please see Attachment A for a detailed assessment by the Border Power Plant Working Group of natural gas supply/demand projections over the 2002-2025 time period. Slide 8 of Attachment A includes a plot of domestic gas consumption since 1970. Natural gas consumption has ebbed and flowed considerably in the last 30 years. BHP Billiton uses the EIA assumption of a sustained high growth rate in natural gas-fired electric generation over the next 20 years to underscore the need for LNG supplies. However, this sustained growth rate scenario appears to be worst-case at best and unrealistic at worst given the historic volatility in gas demand, and the fact that higher gas prices and concerns about fossil fuel dependence are motivating (in part) many regions of the country to establish aggressive renewables and efficiency standards to reduce the need for new fossil-fuel fired power generation capacity.

G464-1

Sempra Energy (parent company of Southern California Gas Company and San Diego Gas & Electric), in contrast to EIA, BHP Billiton, National Petroleum Council, and the California Energy Commission, has predicted a dramatic decline in domestic natural gas production over the 2002-2025 timeframe. This projection was presented to the California Public Utilities Commission in December 2003 in the initial phase of a natural gas procurement proceeding critical to opening the California market to LNG supplies. The company provided no supporting evidence. The Sempra Energy "doomsday scenario" has been debunked in the press (see Attachment B). SoCalGas will transport all natural gas supplied from Cabrillo Port. Sempra Energy is also hoping to construct an LNG terminal in Baja California to serve the Southern California market and sell LNG directly to its affiliates SoCalGas and SDGE.

California has a stated goal of 20 percent renewables by 2017. However, the Governor is expected to propose legislation requiring 33 percent renewables by 2020 during the 2005 legislative session. SDGE has already committed to 24 percent renewables by 2014, essentially equivalent to 33 percent by 2020.

As noted in Slide 28 of Attachment A, a large number of California communities are committing to Community Choice Aggregation with a renewables target of 40 percent. On a statewide basis, each 10 percent increase in the renewables percentage, which equals approximately 30,000 GWh of electric power demand, approximates the electric power generated by the natural gas throughput of one LNG terminal. Pennsylvania signed into law an 18 percent renewables target by 2020 in December 2004. This renewables commitment will dramatically reduce the growth in natural gas demand in Pennsylvania. New York, Colorado, and Texas are all in some stage of committing to very ambitious renewables targets. This is reality, not the conservative business-as-usual assumption that produced the DOE's 1.8 percent per year growth rate in natural gas consumption over the 2002-2025 timeframe.

A similar trend is occurring in the area of energy efficiency. Dramatic reductions in electric power demand and associated natural gas consumption are achievable at low cost through energy



G464-1
Section 1.2.2 contains updated information on natural gas needs in the U.S. Forecast information has been obtained from the U.S. Department of Energy's Energy Information Agency. As discussed in Section 1.2.2, the Federal EIA provides policy-independent data, forecasts, and analyses to promote sound policy-making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment. Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan. Sections 3.3.1 and 3.3.2 address conservation and renewable energy sources, within the context of the California Energy Commission's 2005 Integrated Energy Report and other State and Federal energy reports, as alternatives to replace additional supplies of natural gas.

efficiency. The high growth in gas-fired power generation assumed by the DOE does not take into consideration recent increased energy efficiency targets in certain highly populated areas of the country. California is a good example. On September 23, 2004 the CPUC voted to accelerate utility energy efficiency goals beyond business-as-usual targets. As stated by Commissioner Kennedy following the vote, "*these accelerated efficiency goals will save the equivalent output of five power plants.*"[1] The output of five power plants is equivalent to the natural gas throughput of half of an LNG terminal.

Recommendation: The most reasonable natural gas demand scenario is to assume that within 2-4 years all of the highly populated regions of the country will be subject to a 2020 renewables target in the range of 20 percent, and that comparable energy efficiency targets will be in place. Prepare an alternative natural gas demand curve that assumes the country achieves a 20 percent renewables target by 2020 and a comparable reduction in demand via aggressive incorporation of low-cost energy efficiency measures (similar to those listed in Section 4.10.1.1).

**Comment 2: Section 1.2.2.2 California Natural Gas Needs**

California's Energy Action Plan (May 2003) calls for maximum emphasis on energy efficiency and renewables to meet California's energy needs. Currently our natural gas demand is declining. See Attachment A. The state demand for natural gas is not anticipated to return to the 2002 peak until 2016 assuming a business-as-usual demand projection. The only reason CEC figures show an increase is because the CEC begins the "clock" in a low demand year (2003). Aggressively developing low cost energy efficiency opportunities in California would eliminate the natural gas demand of one LNG terminal. Increasing the renewables from 20 percent to 30 percent by 2017 would eliminate the demand of a second LNG terminal. Many cities and counties in the state are taking advantage of the Community Choice electricity procurement legislation to commit to a renewables target of 40 percent by 2017. Industry analysts have determined that in nearly all cases these communities can achieve the 40 percent renewables target without an increase in rates compared to utility charges.

G464-2

Importing LNG will not modulate natural gas prices in California or nationally. The core issue is a malfunctioning natural gas trading system that is unresponsive to competitive pressures. Adding additional supplies will have little or no impact on price in a market with fundamental transaction deficiencies. See a detailed discussion of this topic in Attachment A.

California is actually considerably closer to its primary natural gas supply basins (Rockies, New Mexico, West Texas, Alberta) than many of the major Eastern U.S. natural gas demand centers (see Slide 4 of Attachment A). The concept that California is at the tail end of a very long gas supply system is incorrect.

The statement on p. 1-8 (line 4) that domestic and Canadian gas field production is in decline is simply false. BHP's own presentation material (Southern California LNG Import Terminal Project brochure, August 2004) uses DOE EIA figures showing a 20 percent increase in domestic production between 2002 and 2025. Canadian exports to the U.S. are expected to be steady through at least 2020 according to the Canadian National Energy Board (see Slide 14).

The statement on p. 1-8 (line 9-11) that the CEC has identified the need to develop new natural gas infrastructure to access diversity of fuel supply sources should be contrasted with the September 2, 2004 decision by the CPUC to authorize SoCalGas to terminate firm capacity

[1] California Energy Circuit, *CPUC Adopts Ambitious Energy Savings Targets*, September 24, 2004, p. 9.



G464-2
Section 1.2.3 contains updated information on natural gas needs in California. Forecast information has been obtained from the California Energy Commission. As discussed in Section 1.2.3, the CEC's 2005 Integrated Energy Policy Report Committee Final Report provides the energy context for California's natural gas needs as identified in this EIS/EIR. The California Legislature recognizes that the CEC is the State's principal energy policy and planning organization and that the CEC is responsible for determining the energy needs of California. These responsibilities are established in State law (the Warren-Alquist State Energy Resources Conservation and Development Act [Public Resources Code, Division 15]). The analysis in Sections 1.2.3 and 3.3.2 relies on up-to-date published material on natural gas energy demand in California. See additional discussion of the CEC Final Report in Section 4.10.1.3.

rights to 1,400 mmcfd of domestic natural gas. The CPUC decision is in complete contrast to the concept of maintaining access to a diversity of supply sources. For a complete discussion of the CPUC action see Attachment A.

**Comment 3: Section 1.2.3 Project Objectives**

The statement is made on p. 1-8 (line 30) that by importing LNG from Australia the state would no longer need to rely solely on gas from North America. This phrase gives the impression that importing gas from 10,000 miles away, and the attendant global warming gases and air emissions from burning the gas, is somehow preferable to working with North American natural gas resources and creatively addressing any potential resource constraints through aggressive renewables and efficiency programs. G464-3

**Comment 4: Section 3.3.1 Energy Conservation**

The business-as-usual natural gas demand increases in California cited on p. 3-5 (lines 17-18) are relative increases to the low demand year of 2003. Even in the business-as-usual analysis gas demand does not return to 2002 levels until the 2014-2016 timeframe. G464-4

The statement on p. 3-5 (lines 21-24) is incorrect. Energy conservation measures can be deployed far more quickly than the 4-year construction schedule of an LNG regas terminal. See Attachment A for an overview of the speed with which low cost energy conservation measures can be deployed and the attendant impact on gas demand and price. California shaved 11 percent off peak electricity demand in May 2001 almost overnight, and completely avoided projected brownouts and blackouts projected for the summer of 2001 by putting into action simple, low cost energy conservation measures. G464-5

**Comment 5: Section 3.3.2 Renewable Energy Sources**

The statement on p. 3-5 (lines 21-24) is incorrect. Many renewable energy sources can be deployed far more quickly than the 4-year construction schedule of an LNG regas terminal. Wind power is renowned for how rapidly it can be deployed relative to conventional fossil-fuel fired power plants, with the timeline between project authorization to operation being as little as twelve months even for relatively large projects. G464-6

**Comment 6: Section 4.10.1.1 California Natural Gas Plan**

The CEC's business-as-usual scenario shows gas demand increasing from 1.5 to 2 percent per year. This is belied by reality, which shows the state's gas demand is in slight decline with rebound to 2002 peak levels in the 2014 – 2016 timeframe. The CEC has also prepared alternative demand growth scenarios that assume progressively more aggressive deployment of cost-effective renewables and energy efficiency measures. Cost-effective means less costly or comparable to natural gas-fired baseload and peaking turbine installations. The more aggressive scenarios result in a negative growth rate in natural gas demand in California. The text should include the range of scenarios examined by the CEC and not only the basecase business-as-usual scenario. The business-as-usual scenario is already obsolete as a result of CPUC decisions on energy efficiency (September 2004) and Community Choice Aggregation (December 2004), and the state's almost certain commitment to a 30 percent renewables by 2017 (or equivalent) target. G464-7 G464-8

The statement on p. 4.10-1 (lines 18-19) that the state's Energy Action Plan recognizes that natural gas can not be eliminated and recognizes the need for reliable supplies of natural gas in no way supports the addition of LNG supplies. No one in California is suggesting that use of G464-9



G464-3
Natural gas is a fuel on which California and the U.S. currently depend. The use of LNG does not prevent the development and use of North American energy and renewable energy sources and energy efficiency programs. Section 1.2 discusses dependence on foreign energy sources. Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan. As discussed in Section 1.2.3, the "CEC has identified the need for California to develop new natural gas infrastructure to access a diversity of fuel supply sources and to remove constraints on the delivery of natural gas." The CEC has identified LNG as a natural gas supply opportunity; therefore, the CEC has identified natural gas and LNG, as well, as part of the energy mix to meet California's energy demand.

G464-4
The Final EIS/EIR acknowledges the contribution of energy conservation and renewables to meet California's energy needs in Sections 3.3.1, 3.3.2, and 4.10.1.3. Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan. However, the 2005 California Energy Action Plan states explicitly that "California must also promote infrastructure enhancements, such as additional pipeline and storage capacity, and diversify supply sources to include liquefied natural gas (LNG)."

G464-5
Section 1.2.3 contains updated information on this topic. The "CEC energy demand forecasting models specifically quantify and incorporate conservation and energy efficiency influences." The models also assume that the California investor-owned utilities (and suppliers from other Western states) will meet their Renewable Portfolio Standards.

G464-6
See the response to Comment G464-5.

G464-7
Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan.

The United States Coast Guard, the Maritime Administration, and

the California State Lands Commission are required to use the information developed or provided by those Federal and State agencies that have authority over or expertise in that field. Therefore, the three agencies are relying on data compiled from the Federal Energy Information Administration and the California Energy Commission (CEC).

The CEC's 2003 Energy Report and 2005 Natural Gas Assessment Update both indicate that California's demand for natural gas will grow annually through the year 2013. The 2005 report projects natural gas demand will have an approximately 0.7 percent annual growth rate from 2006 to 2016.

G464-8
The lead agencies are obligated to use State energy forecasting information from the California Energy Commission (CEC). As discussed in Section 1.2.3, the CEC's 2005 Integrated Energy Policy Report Committee Final Report provides the energy context for California's natural gas needs. The California Legislature recognizes that the CEC is the State's principal energy policy and planning organization and that the CEC is responsible for determining the energy needs of California. These responsibilities are established in State law (the Warren-Alquist State Energy Resources Conservation and Development Act [Public Resources Code, Division 15]). See additional discussion of the CEC Final Report in Section 4.10.1.3.

G464-9
As discussed in Section 1.2.3, the "CEC has identified the need for California to develop new natural gas infrastructure to access a diversity of fuel supply sources and to remove constraints on the delivery of natural gas." The CEC has identified LNG as a natural gas supply opportunity; therefore, the CEC has identified natural gas and LNG, as well, as part of the energy mix to meet California's energy demand.

natural gas be eliminated, though the Energy Action Plan recognizes the overarching need to reduce dependence on natural gas over time by: 1) meeting demand through energy efficiency and renewables, and 2) only adding new gas sources if the first two options will not meet the need. This is a common sense plan for driving down natural gas demand over time.

**Attachments**

Attachment A: Bill Powers, P.E., *Should the CPUC Grant Access to Utility Ratepayer Contracts to Ensure LNG Terminals are Built to Serve the California Market?* December 17, 2004 (PowerPoint presentation)

Attachment B: San Diego Union Tribune, *Sempra's dire forecast – company's prediction of natural gas crisis challenged by other energy experts,* October 3, 2004

G464-10

G464-10
Thank you for the information.

# Attachment A: Should the CPUC Grant Access to Utility Ratepayer Contracts to Ensure LNG Terminals are Built to Serve the California Market?

BPPWG Comments on Cabrillo Port LNG Draft EIS/EIR, December 17, 2004

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# Natural Gas Supply, Demand, and Price:

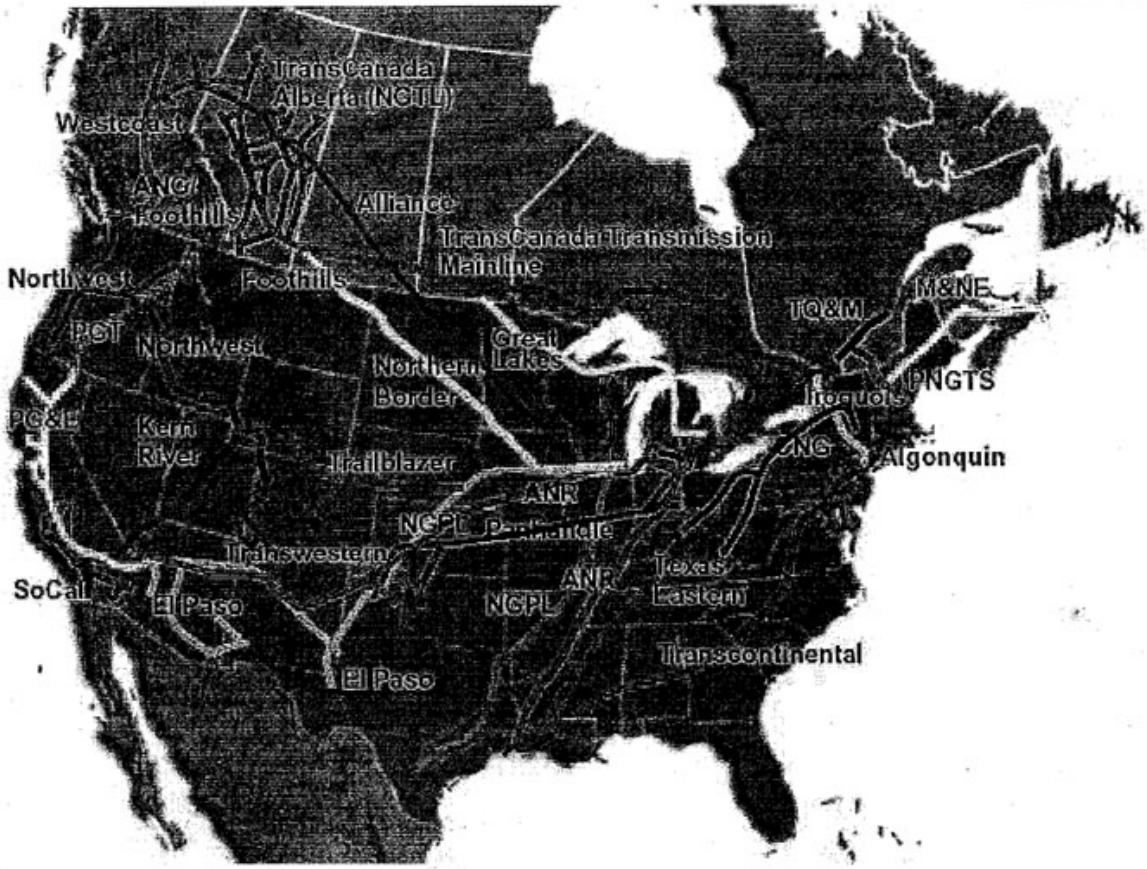
# Do We Need LNG to Prevent Another Energy Crisis in California?

# California Natural Gas 101

| | |
|---|---|
| U.S. daily usage rate (billion cubic feet per day - Bcfd) | 60 Bcfd |
| California daily usage rate | 6 Bcfd |
| Utility core customer usage (residential, small/medium business) | 1.5 – 2 Bcfd |
| Utility non-core customer usage (powerplants, industrial) | 4 – 4.5 Bcfd |
| Capacity of one LNG terminal | 1 Bcfd |
| Current sources of gas reaching California | Permian Basin (TX), San Juan Basin (NM), SW Wyoming, Alberta (Canada), California |

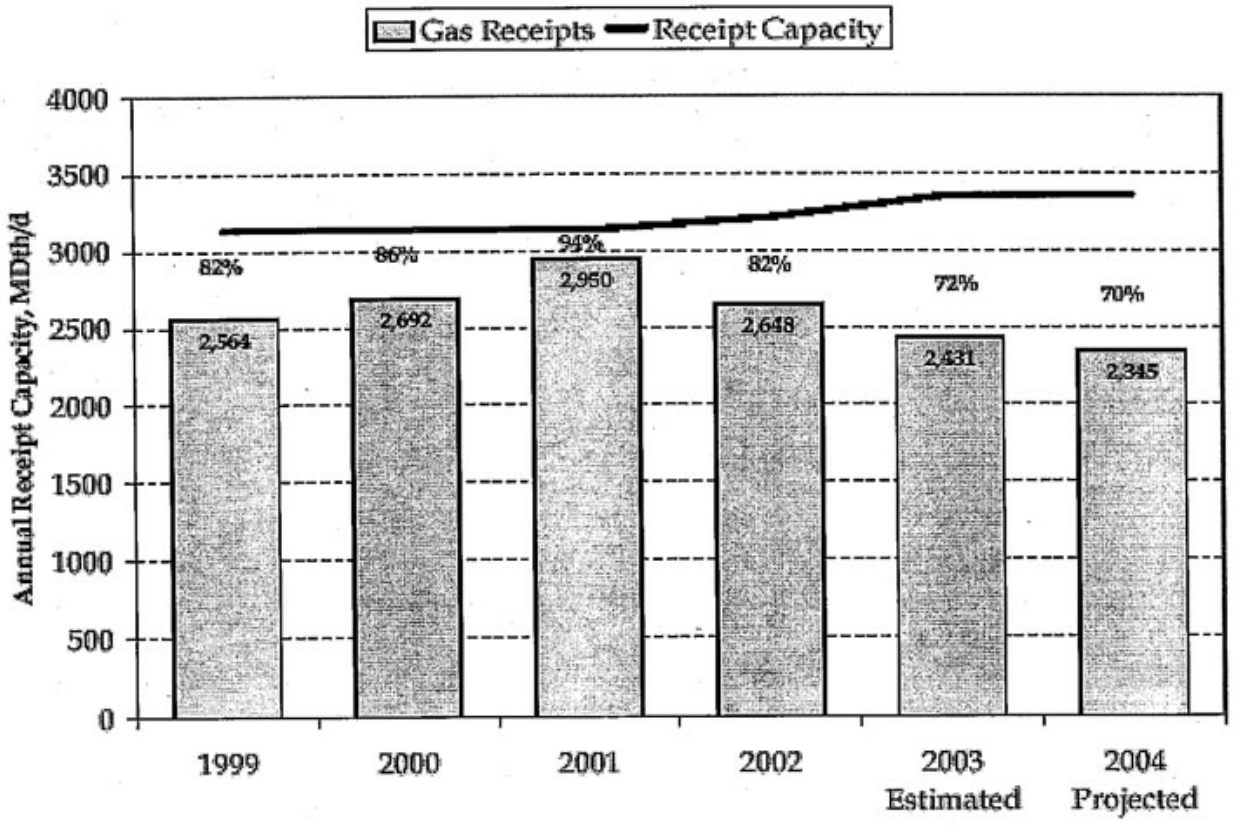
# North American Pipeline Infrastructure Map – note California proximity to supply basins

From: Greg Stringham, Canadian Association of Petroleum Producers, *Canadian Natural Gas – An Important Part of North American Supply, Now and In the Future,* National Energy Modeling System/ Annual Energy Outlook Conference, March 2004



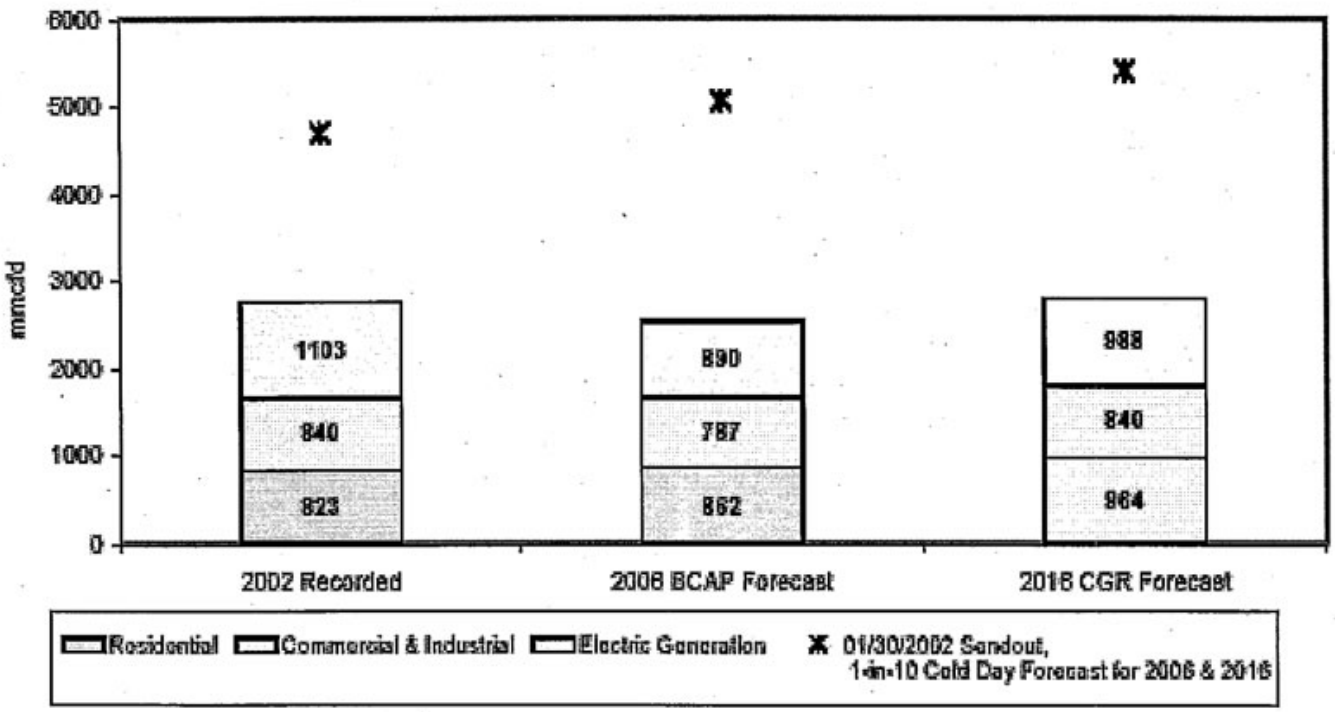
# PG&E, declining gas demand

From: **Les Buchner, Manager PG&E, *Forecast of Demand Natural Gas Market Outlook 2006 –2016*, CPUC/CEC Workshop, December 9, 2003, San Francisco.**



# SoCalGas & SDGE, declining gas demand

From: **Jeff Hartman, Director Energy Markets and Capacity Products SoCalGas/SDGE, *Future Demand for Natural Gas in Southern California: 2006 –2016*, CPUC/CEC Workshop, December 9, 2003, San Francisco.**

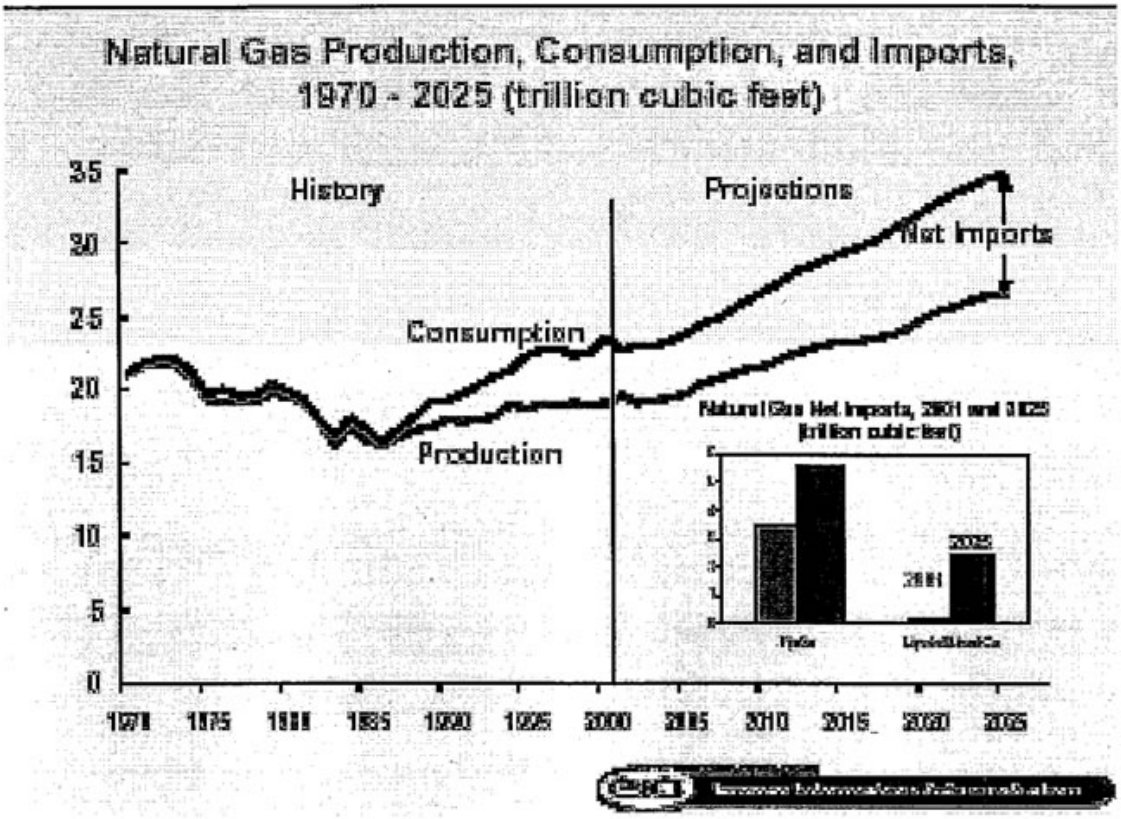


# Are we running out of domestic supplies of natural gas? No.

- What the Department of Energy says:
  - U.S. domestic production will increase by ~20% from 2001 to 2025, in response to 1.8% per year assumed growth rate in demand;
  - Canadian imports will fluctuate, though remain relatively constant from 2001 to 2025;
  - Primary growth area is electric power production.
- California: Gradual decline in use from 2002 peak in basecase business-as-usual scenario, rebounding to 2002 level in 2016.

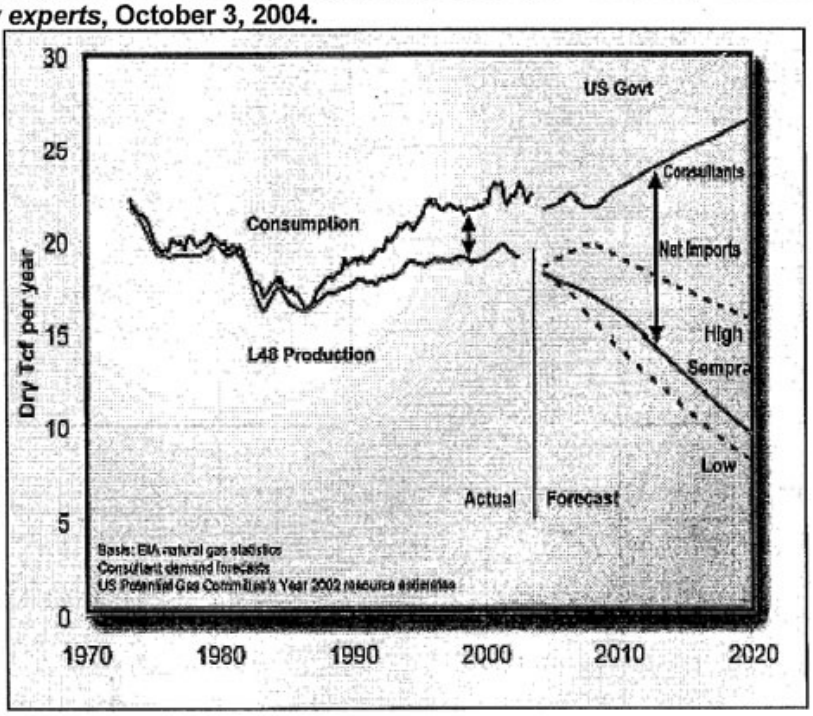
# U.S. domestic natural gas production will rise considerably to meet demand growth projected at 1.8% per year by DOE - BHP Billiton concurs with DOE domestic production increase projection

1) James Kendell, DOE EIA, *Current Natural Gas and LNG Projections*, NARUC, July 29, 2003
2) BHP Billiton presentation, Southern California LNG Import Terminal Project – Cabrillo Port, June 2004 (PowerPoint)



# Sempra (SoCalGas/SDGE parent) "doomsday" scenario depicting crisis in domestic natural gas output – debunked in press when compared to independent industry projections

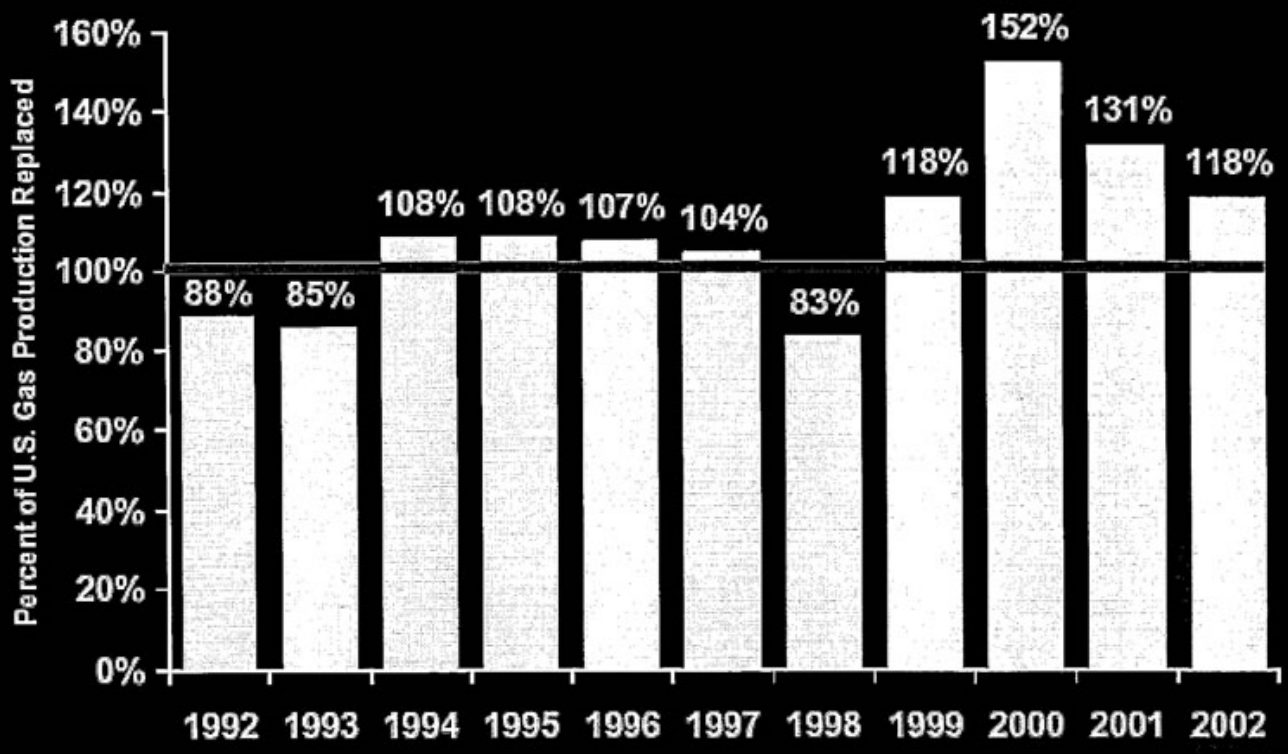
1) Greg Bartholomew, VP Gas Strategies, Sempra LNG, **CPUC/CEC natural gas 2006-2016 workshop, Dec. 10, 2003, SF.**
**2) San Diego Union Tribune, *Sempra's dire forecast – company's prediction of a natural gas crisis is challenged by other energy experts*, October 3, 2004.**




## Sempra:

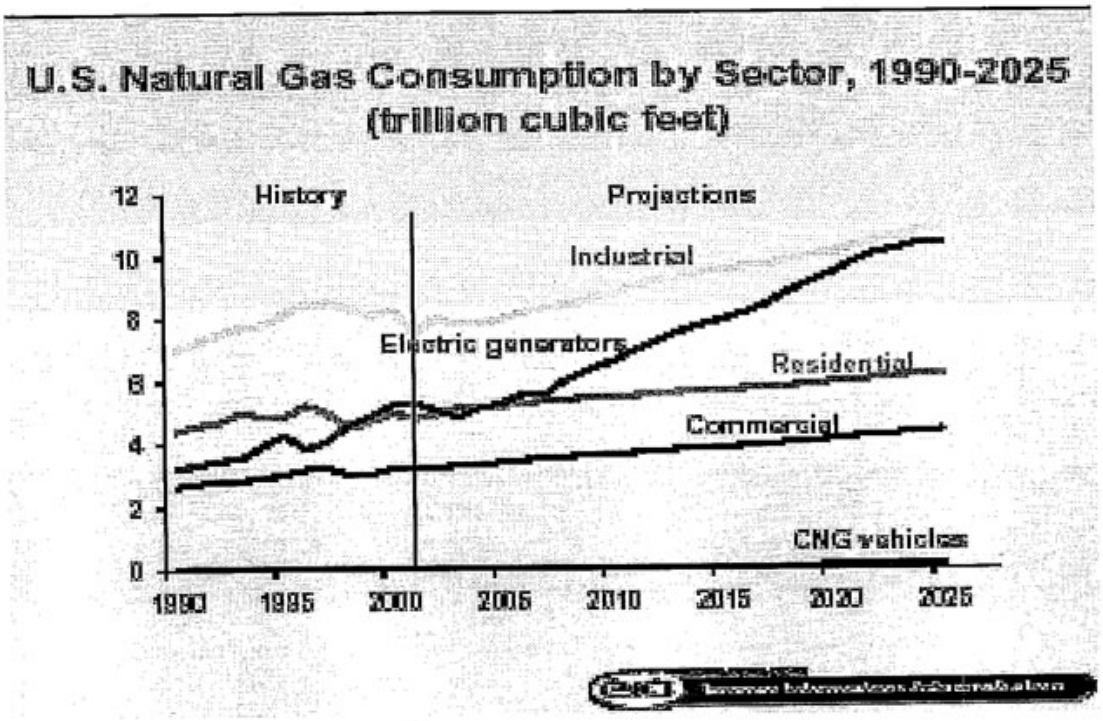
- **"California has little choice but to allow the development of LNG terminals"**
- **"The only decision is where and how"**

# Reserve Additions Exceeded Production for 8 of the Last 9 Years

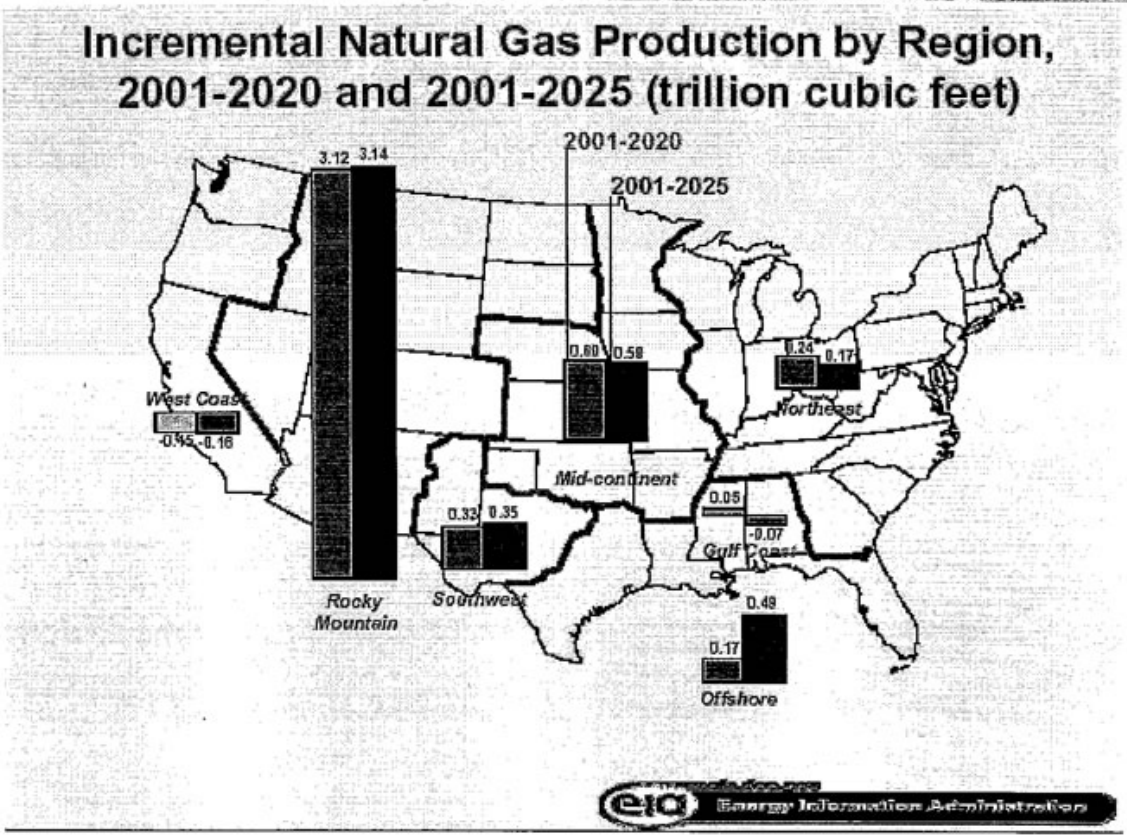



Source: Energy Information Administration, Advance Summary of *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2002 Annual Report*

# DOE natural gas demand increase assumes sustained increased in use of natural gas in power plants from 2008 onward – arguably a worst-case assumption



# Expected growth in U.S. domestic natural gas production, 2001 - 2025



# Downgrading of Canadian import projection by DOE: Legitimate, political, or bit of both?

Top: July 03 DOE EIA projection; Bottom: Jan 04 projection; DOE Sec. Abraham opening comments, LNG Summit, Dec 03

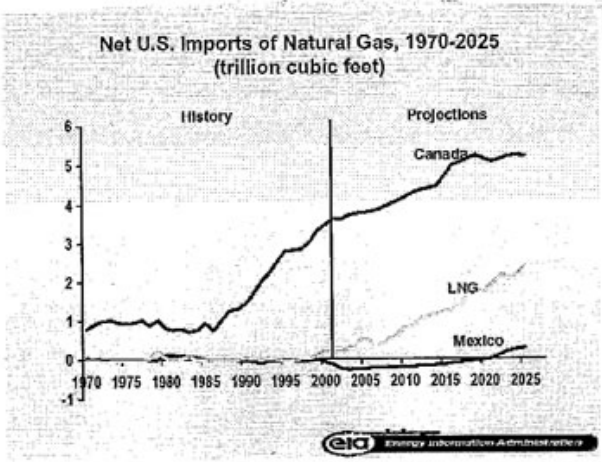
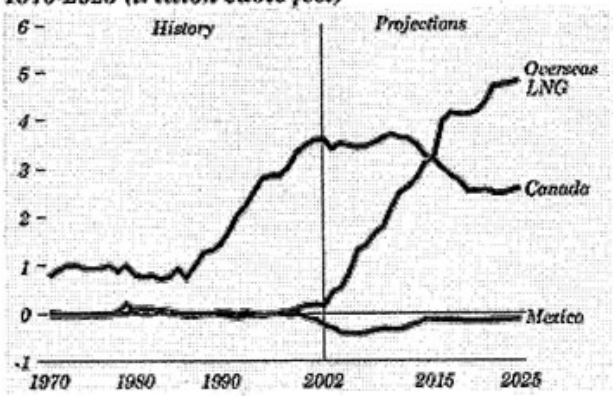



*Figure 89. Net U.S. imports of natural gas, 1970-2025 (trillion cubic feet)*

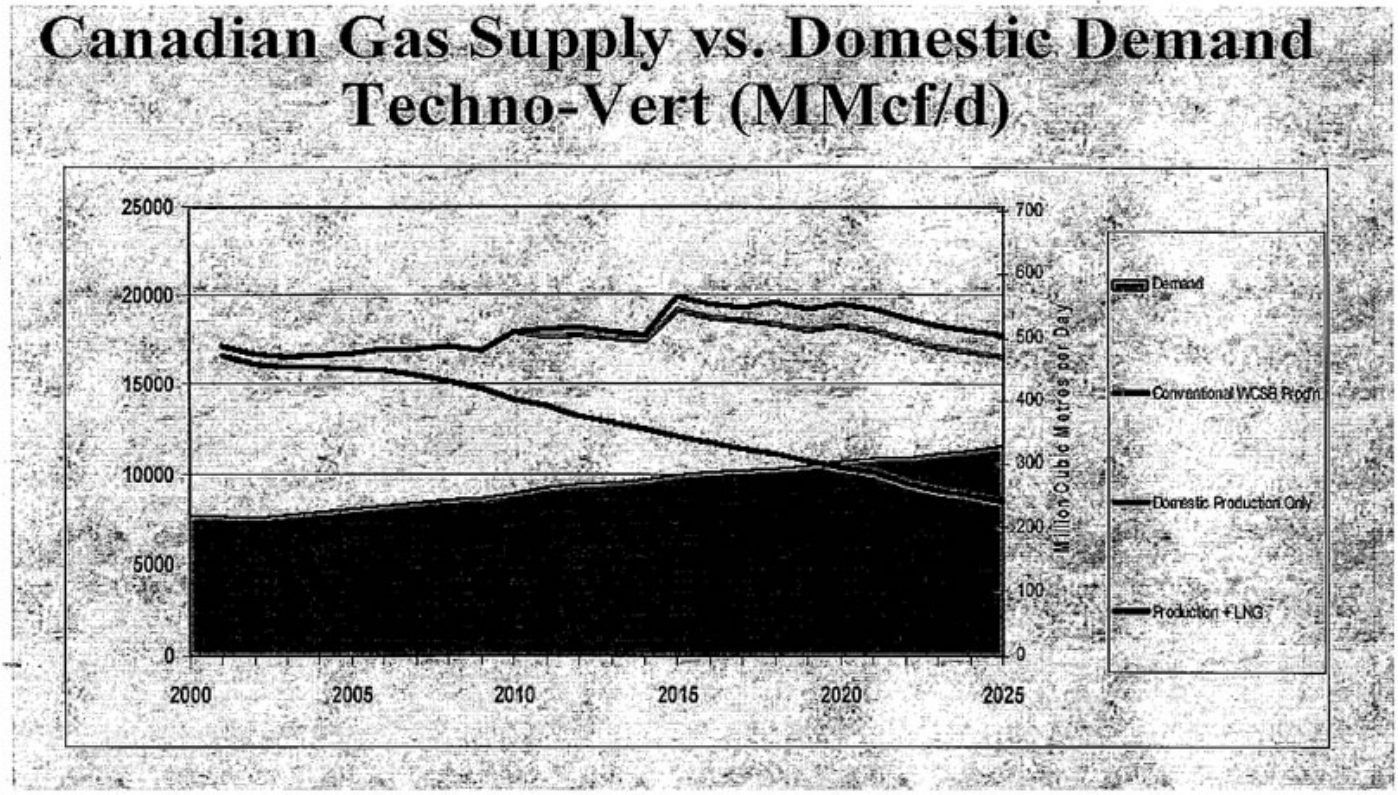



DOE Sec. Abraham, Dec 2003:

- We need the contribution of a large and growing market in imported Liquefied Natural Gas;
- We are here at this [LNG] Summit to discuss ways to make that market a reality;
- To meet our energy needs, the United States will have to become a much large importer of LNG than it is today;
- Imports could account for 15% of our natural gas supply in 2025 - that should give you some sense of how important a large and efficient global LNG market is to us.

# What do the Canadians think? Somewhere in between the DOE '03 and '04 projections.

From: Joe Lemée - Supply Specialist, National Energy Board, *Canadian Gas Supply 1980 – 2025*, NEMS/AEO Conference, March 23, 2004. "Techno-Vert" means technology advances rapidly w/ preference for clean burning fuels.



# Will the arrival of LNG reduce the price of natural gas? No.

- What the Department of Energy says:
  - Natural gas price will drop considerably over next two years, then slowly rise to $3.50/MMBtu in 2015 timeframe, and continue to $3.95/MMBtu (wellhead price adjusted to 2001) by 2025;
  - Cost to get LNG to California is well over $4/MMBtu;
  - Cost to get LNG to Baja California is $3.40/MMBtu;
  - DOE projection assumes no LNG on West Coast until 2020.
- What some LNG developers say:
  - Natural gas price is high and will go much higher without LNG to stabilize regional market
- No consensus among government and industry analysts whether LNG will have any impact on price – core problem appears to non-competitive natural gas trading practices leading to tremendous price volatility and high prices despite adequate domestic natural gas supply.